Chapter 4. Licensing.

4-1. Overview of Regulatory Agencies.

a. Nuclear Regulatory Commission (NRC).

(1) The Atomic Energy Act of 1954 charges the NRC with the responsibility of writing and enforcing regulations concerning the use of radioactive material. A license is required for possession of source, byproduct or special nuclear material and license holders are inspected by NRC to determine if regulations are being followed by the licensee. If serious or repeated violations occur, a license may be revoked and the radioactive material confiscated. Table 4-1 lists NRC regional offices, NRC Form 3, attached at Appendix H, indicates what NRC region states fall under.

(2) Although the NRC is the federal agency responsible for adopting and enforcing rules and regulations that apply to users of radioactive material, broad administrative responsibilities have been transferred to some state governments. In 1959 the NRC was permitted to make agreements with those states that could operate a suitable radiological health program for the radioactive material users in their states. States that have such agreements with the NRC are called Agreement States. Table 4-2 lists the Agreement States and each state's radiological health program office and emergency phone numbers.

b. Agreement States.

Agreement states have their own state regulations and they provide personnel to license and inspect users of radioactive material. Agreement state regulations must be as stringent as NRC regulations and, usually, are more stringent. The primary difference in most Agreement state regulations is the inclusion of NORM and Naturally occurring and Accelerator produced Radioactive Material (NARM) materials (such as radium, thorium, and cobalt-57) as well as source, byproduct and special nuclear material as regulated materials. The NRC does not regulate NORM or NARM (only source, byproduct, and special nuclear material). Agreement states do not issue licenses to Federal agencies, including the US Army; only the NRC may do so.

c. Environmental Protection Agency (EPA).

The Atomic Energy Act and Reorganization Plan No. 3 authorized the EPA to establish

standards to protect human health and the environment from the effects of radiation. The EPA does not license radioactive materials, but regulates their release to the environment and the exposure of the public to radiation.

d. Occupational Safety and Health Administration (OSHA).

OSHA is authorized to protect worker health and safety. OSHA does not license radioactive materials, but regulates their use in the workplace. To protect workers from radiation, OSHA, in 1984, adopted the NRC regulations specified in 10 CFR 20, as it stood in 1984. 10 CFR 20 was amended by the NRC in 1994. Consequently, there are two sets of regulations governing Authorized Users' Assistants with NRC licensable materials; the NRC regulations and OSHA regulations. This is explained more thoroughly in Chapter 5; Dose Limits and ALARA.

4-2. Types of NRC Radioactive Material Licenses. Nuclear Regulatory Commission licenses for radioactive material are of two types: general and specific.

a. General Licenses.

(1) NRC general licenses are provided in 10 CFR 31 and are effective without submitting an application and without receiving a licensing document. Generally licensed devices usually contain little activity and pose minimal risk to the user. Devices which may be generally licensed include: static eliminators, some calibration sources, some measuring, gauging and controlling devices and self-luminous exit signs. Generally licensed material still requires compliance with 10 CFR 19 and 10 CFR 20 requirements for worker instructions and notices, and radiation protection standards. Additionally, for many generally licensed items, there are requirements for semi-annual leak testing and inventories, as well as prohibitions on transfer or disposal except for return to the manufacturer or transfer to the holder of a specific license for that radioactive item.

(2) Example: ABC Co. has a specific license to manufacture and to distribute a gas chromatograph (GC) containing a 50 mCi Ni-63 sealed source to general licensees. A USACE lab (the general licensee) may purchase the GC without applying for an NRC specific license. In the instruction manual for the GC are procedures for performing leak tests on the source at 6- month intervals, and keeping a written inventory of the device updated at 6-month intervals.

Additionally, the manual includes a statement that the GC may not be transferred or sold to anyone who does not have a specific license to possess 50 mCi of Ni-63, and that the GC can only be disposed of by shipping it back to the manufacturer.

b. Specific Licenses.

(1) Specific licenses require the submission of an application (either to the NRC or an Agreement State depending upon who has jurisdiction) and the issuance of licensing documents from the regulatory agency. It is illegal to transfer (sell or give) licensed radioactive material to another person or institution unless the recipient has a license to possess the material. Consequently, radionuclide supply companies require information about a customer's license before they will fill an order. Devices which may be specifically licensed include: gas chromatographs, moisture/density gauges, and industrial radiography cameras.

(2) Example: A district has a specific license to possess and use up to 100 mCi of Ni-63 in sealed sources. The district may have two 50 mCi sources at one time. Additionally, the specific license may contain conditions such as:

The sealed sources will be leak tested at 3-month intervals.

The source shall be used only by persons who have completed training as described in the license application.

An example of an NRC radioactive material license is included at Appendix H.

c. Exempt Quantities.

(1) A list of exempt quantities, that is, the amount of a particular radionuclide that can be obtained without a general or specific license can be found in 10 CFR 30.71, Schedule B. These NRC regulations also list exempt concentrations, that is, the concentration of a particular radionuclide in a product that can be obtained without a general or specific license. Additionally, NRC and Agreement State regulations contain a listing of exempt items, that is, items containing radioactive material that can be obtained without a general or specific license. If you are unsure of the licensing requirements for a device you wish to use, contact the Command RPO.

(2) *NOTE*: As previously mentioned, there is some radioactive material that is not regulated by the NRC, but is regulated by Agreement

States. Most Department of Defense (DOD) sites are exclusive Federal property and so are regulated by the NRC, but some bases and some portions of bases may be state property and may be regulated by the state. Always check to determine if the site you are on is Agreement State regulated. This is normally done through the Command Real Estate function and the Office of Counsel.

4-3. 'Storage Only' Licensing.

The NRC allows licensed radioactive material that is not being used to be licensed for storage only. This method of licensing is less expensive than a possession and use license. The sealed source wipe testing requirements are greatly reduced (usually, once per 10 years, prior to storage, and when removed from storage). The license may require a semi-annual inventory of all radioactive material.

4-4. Radiation Generating Devices.

The NRC does not license radiation generating (X-ray) devices since they do not contain radioactive material. Most states, however, require registration and/or licensing of radiation generating devices. States do not have authority to regulate devices used only on exclusive Federal jurisdiction facilities, but many states request that they be notified of all radioactive materials and devices located within their boundary. Facilities located on non-exclusive federal jurisdiction, may be subject to state regulation. **USACE requires that most ionizing radiation generating devices have an ARA (see paragraph 4-6).** Table 4-2 lists the state radiological health program offices to contact for registration and/or licensing of radiation generating devices.

4-5. Reciprocity Requirements.

a. The NRC and Agreement States reciprocally recognize each other's radioactive material licenses. That is, an Agreement State licensed company can perform work in NRC jurisdiction under the company's Agreement State license. Likewise, an NRC licensed company can perform work in an Agreement State's jurisdiction under the company's NRC license.

b. When a state-licensed contractor desires to perform work in an "NRC-state," the contractor must first be granted reciprocity by the NRC. The contractor must provide the NRC with a copy of its state radioactive material license and inform the NRC of its work intentions using NRC Form 241. There is a fee for filing NRC

Form 241 which may range from $200.00 to $1000.00 or more depending on the type of license and work to be performed.

c. When a state-licensed contractor desires to work in another Agreement State, the contractor must notify the Agreement State using the appropriate state form.

d. An NRC licensed contractor performing work on a site under an Agreement State's jurisdiction must notify the Agreement State using the appropriate state form. Some Agreement States also charge a fee for reciprocity.

4-6. Army Radiation Authorization (ARA).

a. ARAs are issued by Major Army Commands (MACOM) (including the Corps of Engineers). An ARA is required for a USACE Command to receive, possess, use, or transfer radioactive material that is not licensed by the NRC, that is, NORM or NARM material or an ionizing radiation generating device. An ARA is not required for radioactive material that is covered by another MACOM's similar authorization.

b. An ARA is not required for:

(1) NRC license exempt or generally licensed materials,

(2) less than 1.0 microcurie of NORM or NARM,

(3) less than 0.1 microcurie of radium-226,

(4) electron tubes containing less than 10 µCi (370 kBq) of any NARM radioisotope,

(5) machine-produced ionizing radiation sources not capable of producing a high or very high radiation area, and

(6) Army nuclear reactors and Army reactor-produced RAM that remains at the reactor site. The Army Reactor Office issues Army reactor permits for these sources (see AR 50-7).

4-7. Army Radiation Permits (ARP) and Other Service Installation Permits.

a. An ARP is required for a non-Army agency (including civilian contractors) to use, store, or possess ionizing radiation sources on an Army installation, facility, or project, or at a U.S. Army Reserve Center. Non-US Air Force (USAF) organizations on USAF property are required to obtain a USAF permit for use of NRC licensed material, NORM or NARM, or radiation generating devices. Concurrence of the Air Force or Navy installation commander, and/or RPO is required to obtain a base permit. "Ionizing radiation

source" means any source that, if held or owned by an Army agency, would require a general or specific NRC license or an ARA.

b. The non-Army applicant will apply by letter with supporting documentation through the appropriate tenant commander to the installation commander.

c. The ARP application will specify start and stop dates for the ARP and describe for what uses the applicant needs the ARP. The installation commander will approve the application only if the applicant provides evidence to show that one of the following is true:

(1) The applicant possesses a valid NRC license or Department of Energy (DOE) radiological work permit that allows the applicant to use the source as specified in the ARP application.

(2) The applicant possesses a valid agreement state license that allows the applicant to use RAM as specified in the ARP application, and the applicant has filed NRC Form-241, Report of Proposed Activities in Non-Agreement States,(attached at Appendix H) with the NRC in accordance with 10 CFR 150.20. An ARP issued under these circumstances will be valid for no more than 180 days in any calendar year.

(3) For NARM and machine-produced ionizing radiation sources, the applicant has an appropriate state authorization that allows the applicant to use the source as specified in the ARP application or has in place a radiation protection program that complies with Army regulations.

(4) For overseas installations, the applicant has an appropriate host-nation authorization as necessary that allows the applicant to use the source as specified in the ARP application and has in place a radiation protection program that complies with Army regulations.

d. All ARPs will require applicants to remove all permitted sources from Army property by the end of the permitted time.

e. Disposal of RAM by non-Army agencies on Army property is prohibited. However, the installation commander may authorize radioactive releases to the atmosphere or to the sanitary sewerage system that are in compliance with all applicable Federal, DOD, and Army regulations.

f. *NOTE* Moisture/density gauges, X-ray fluorescence

analyzers, and other similar devices require an Army or USAF radiation permit or exemption.

g. *NOTE* Any ARP should be written to allow sufficient flexibility and be as generic in nature as is possible. Once a permit is approved, the details listed MUST be adhered to with no variations allowed.

h. Installation permits need to be applied for at least 45 days prior to the start of the intended use of the materials and must be secured before radioactive material are brought onto a base.

I. An NRC licensed company must notify the RPO before bringing radioactive material onto a Navy base. A state licensed company must notify the RPO and, provide the RPO with an NRC Form 241 and a copy of the company's state radioactive material license before bringing radioactive material onto the Navy base.

4-8. Applying for an NRC License.

If it is determined that a Command needs to own radioactive material, the following steps should be followed:

a. Check with the CO to ensure that the Command will support the license and all the accompanying costs and responsibilities.

b. Find the source of funding for paying licensing, maintenance and training costs. The license alone will cost between $500 and $4000 per year. Maintaining and meeting the license conditions will depend on the type and extent of the license and can easily reach $2000 a year. Authorized Users, Authorized Users' Assistants, RPOs, etc. will require initial and annual refresher training.

c. Contact the RPSO and coordinate the licensing.

d. Obtain a copy of the NRC Form 313 "Application for Byproduct Material Usage" (attached at Appendix H). Also obtain the appropriate regulatory guide (this will depend on what radioactive material you desire and your intended use). The regulatory guide will provide good step-by-step instructions for filling out the form.

e. An example license application is included at Appendix H. Note that the application will include a copy of the Command's Radiation Protection Program, and that the license will include a condition (condition #19 in the example at Appendix H) stating that the application and all accompanying documentation will become a part of the license.

Everything that the applicant commits to in the application and subsequent correspondence will be binding in the license. Some tips which may help complete the form are as follows:

(1) In Item 5a, list each radionuclide that will be used.

(2) In Item 5b, if using sealed sources, the chemical and/or physical form is “sealed source.” List the manufacturer’s name and the model number of each source. Do not give serial numbers; allow flexibility.

(3) In Item 5c, give the maximum amount of each radionuclide that will be possessed at any given time, including all material in storage and waste.

(4) In Item 6, describe the uses in very broad terms. For example: “To be used in Troxler Model 3440 gauge to measure soil parameters at temporary job locations within the United States.”

(5) In Item 7, list no more than one individual, and, if necessary, one alternate. The individual(s) must meet the training requirements described in Chapter 2.

(6) In Item 9, be sure that the instruments listed will detect the type of radiation emitted by the radionuclides listed. Include a diagram of the work site and the radioactive material storage location when it is not in use.

(7) In Item 10, each licensee is required to have a written, site-specific, Radiation Protection Program. One method of developing this program would be to lift the applicable sections of this guidance and incorporate those sections into a manual, adding site specific emergency plans, points of contact and personnel lists.

(8) In Item 11, for sealed sources, state that "No waste will be generated. Sealed sources will be returned to the manufacturer for disposal.” If using unsealed sources, coordinate with an HP or the RPO to determine a waste disposal plan.

(9) Photocopy and keep a copy of the application and all submittals as these documents will probably be “tied down” on the license. When a document is “tied down,” it is specifically identified on the license and the regulatory agency can inspect against it, that is, the applicant must abide by all commitments made in those documents.

(10) Submit the application and any license fee

to the RPSO.

(11) The RPSO will review the application, edit as needed, and forward the application and fee to the NRC in the appropriate region.

(12) Radioactive material may not be ordered until the applicant has a copy of the radioactive material license in hand.

4-9. Applying for an ARA.

a. If it is determined that an activity needs NORM, NARM or an ionizing radiation generating device, the following steps should be followed:

(1) Check with the CO to ensure that the unit will support the permit and all the accompanying costs and responsibilities.

(2) Find the source of funding for paying maintenance and training costs. All users of the radioactive material will require initial and annual refresher training.

(3) Contact the RPSO and coordinate the licensing.

(4) Obtain DA Form 3337 "Application for Department of the Army Radiation Authorization or Permit" and "Instructions for preparing DA Form 3337" from your local forms manager. The instructions are self-explanatory. The tips in paragraph 4-8, "Applying for an NRC License" apply equally to Army permits. Copies are attached at Appendix H.

b. The application for an ARA is made by submitting DA Form 3337 to the **USACE RPSO**. The Form does **not** get sent to the address listed in the "Instructions for preparing DA Form 3337". The application will include a list of all NRC licenses and other ARAs held by the Command. Renewals or amendments will be submitted in the same manner as an original application. Requests should be submitted at least 120 days prior to expiration date. A renewal request received prior to the expiration date is considered active until the renewal approval is received.

4-10. Amendment Requests.

a. An amendment to an NRC or Agreement State radioactive material license or an ARA is necessary anytime:

(1) additional radionuclides or radioactive material of another chemical or physical form is desired;

(2) the use of radioactive material changes from the currently authorized use;

(3) the Radiation

Protection Program or waste disposal method will change substantially; and

(4) if the RPO is listed on the license by name, and a new RPO is then appointed.

b. Amendment requests are submitted in the same way as new licenses or permits. Licensees may not procure requested radionuclides or quantities until the amendment has been approved.

4-11. Renewing Licenses or ARA's.

a. Radioactive material licenses are issued for five years and must be renewed to stay in effect. The NRC will send a notice (approximately 90 days in advance) stating that the license is about to expire. It will also send the necessary forms to renew the license. License renewal requests must be submitted to the RPSO for review and forwarding at least 60 days prior to the expiration date. If sufficient time is not available to prepare the renewal request, the applicant may ask the NRC (in writing) to extend the expiration date for up to 90 days.

b. License renewal requests that are received by the NRC thirty days prior to the expiration date will be deemed "timely filed." The NRC will send a "timely filed letter". With this letter, the licensee may continue operating under the old license until they issue the renewed license. If material is needed, the supplier may ask to see this "timely filed letter."

c. If a license is not renewed in a timely manner, all radionuclide use must cease on the date of expiration. At this point, the NRC may require submission of a new license application.

d. ARAs also must be renewed every five years. The RPSO will send a notice, approximately 90 days in advance, to permit holders informing them that their ARA is about to expire.

4-12. Transfer of Radioactive Materials.

a. Should a Command wish to transfer radioactive material to another Command, a Request for Authorization to Transfer Radioactive Materials (ENG Form 4790-R) must be completed and submitted to the RPSO through command channels. A copy of ENG Form 4790-R is included at Appendix H.

b. The RPSO will review the request, and the receiving Command's radioactive license or ARA to ensure that all regulations, license or ARA conditions are met, then approve the transfer.

c. When the Command receives authorization to transfer the materials, the RPO shall ensure that the radioactive materials are packaged and shipped according to DOT and NRC regulations (see Chapter 8).

d. The RPO shall prepare a Certificate of Disposal of Materials (NRC Form 314) and forward the original to the RPSO. The RPSO will review the certificate and record the transfer in the USACE radioactive materials inventory. If the radioactive materials are listed on an NRC license, the RPSO will submit the certificate to the NRC.

4-13. Terminating a Radioactive Material License or ARA.

a. When a Command no longer wishes to possess or use licensed or permitted radioactive material, the license or ARA must be terminated. License or ARA termination involves disposal of all radioactive material, a survey of the premises for radioactive material contamination (a "close-out survey"), submission of disposal documentation and the close-out survey results, and a written request for termination of the license or ARA submitted to the RPSO. The RPSO will review the request and submit it to the proper regulatory agency or DA official for acceptance. The close-out survey must be performed in all areas that may possibly be contaminated with radioactive material. Sealed sources, that have passed semi-annual wipe tests pose little hazard of contamination and a survey of the main storage area would be sufficient. Where unsealed forms of radionuclides have been used, the survey should be conducted following NRC guidance. Nuclear Regulatory Commission NUREGs and Reg. Guides explain the required sampling and monitoring strategy for different site types, gridding methods for surveys, sample analysis, data interpretation techniques, and documentation requirements for termination surveys.

b. The license is considered formally terminated only upon receipt of the letter of termination from the NRC to the RPSO.

4-14. Information Flow through applicable USACE Channels.

a. All NRC license or ARA applications, approvals, amendments, submittals, terminations, etc., must be routed through all Safety and Occupational Health Office channels (that is, "through channels"), prior to being received for action by the HQUSACE RPSO. For example: a request to obtain an NRC license amendment would flow

from the local RPO, through the local SOHO, through the Division SOHO, to the RPSO for action. Actions would be forwarded from the RPSO in reverse order.

b. Failure to follow the information flow process is a violation of the USACE delegation requirements specified by the DA. Technical consultations between NRC Offices and license holders at USACE Commands may take place, though notification of the RPSO of such communications is recommended.

TABLE 4-1
NRC Regional Offices

REGION	LOCATION	TELEPHONE NO.
Region I	King of Prussia, PA	610-337-5000
Region II	Atlanta, GA	404-331-4503
Region III	Lisle, IL	708-829-9500
Region IV	Arlington, TX	817-860-8100

TABLE 4-2
State Radiological Health Program Office and 24-Hour Phone Nos.
†Agreement State

STATE	OFFICE PHONE NO.	24-HOUR PHONE NO.
Alabama†	205-613-5391	205-242-4378
Alaska	907-465-3019	907-789-9858
Arizona†	602-255-4845	602-223-2212
Arkansas†	501-661-2301	501-661-2136
California†	916-322-3482	916-391-7716
Colorado†	303-692-3030	303-771-8517
Connecticut	203-424-3029	203-566-3333
Delaware	302-739-3787	302-678-9111
District of Columbia	202-727-7190	202-727-1010

STATE	OFFICE PHONE NO.	24-HOUR PHONE NO.
Florida†	904-487-1004	407-297-2095
Georgia†	404-362-2675	800-241-4113
Hawaii	808-586-4701	808-733-4300
Idaho	208-334-2235	800-632-2235
Illinois†	217-785-9868	217-785-9900
Indiana	317-383-6152	317-383-6154
Iowa†	515-281-3478	515-993-5386
Kansas†	913-296-1562	913-296-3176
Kentucky†	502-564-3700	502-564-7815
Louisiana†	504-765-1060	504-765-0160
Maine†	207-287-5686	207-624-7000
Maryland†	410-631-3300	410-922-7609
Massachusetts†	617-727-6214	617-727-9710
Michigan	517-335-8200	517-336-6100
Minnesota	621-627-5039	612-649-5451
Mississippi†	601-354-6657	601-856-5256
Missouri	314-751-6102	314-635-4964
Montana	406-444-3671	406-442-7491
Nebraska†	402-471-2168	402-471-4545
Nevada†	702-687-5394	702-687-5300
New Hampshire†	603-271-4588	603-271-3636
New Jersey	609-987-6389	609-292-7172
New Mexico†	505-827-4300	505-351-4651
New York†	518-458-6461	518-457-2200
North Carolina†	919-571-4141	919-733-3861
North Dakota†	701-328-5188	701-328-2121

STATE	OFFICE PHONE NO.	24-HOUR PHONE NO.
Ohio	614-644-2727	614-644-1909
Oklahoma	405-271-7484	800-522-0206
Oregon†	503-731-4014	503-731-4014
Pennsylvania	717-787-2480	717-783-8150
Rhode Island†	401-227-2438	401-621-1600
South Carolina†	803-737-7400	803-253-6488
South Dakota	605-773-3364	605-224-7888
Tennessee†	615-532-0360	615-741-0001
Texas†	512-834-6688	512-458-7460
Utah†	801-536-4250	801-533-4097
Vermont	802-865-7730	802-244-8727
Virginia	804-786-5932	804-674-2400
Washington†	360-586-8949	360-786-8001
West Virginia	304-588-3526	304-558-5380
Wisconsin	608-267-4782	800-943-0003
Wyoming	307-777-7574	Not available